IPSWICH RIVER WATERSHED ASSOCIATION
The Voice of the River

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Ms. Kathleen Baskin, P.E.
Director of Water Policy and Planning
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, 9th floor
Boston, MA

RE: Comments on the SWMI Framework

Dear Ms. Baskin,

I am writing on behalf of the Ipswich River Watershed Association (IRWA), a charitable organizations whose mission is to restore and protect the Ipswich River and coastal waterways of the Massachusetts North Shore. IRWA's goals include 1) ensuring that there is enough clean water for people, businesses and communities; and 2) protecting nature and keeping our rivers healthy for fish and wildlife. We believe these goals are integral to sustainable water management.

More than two years ago, the Massachusetts Executive Office of Energy and Environmental Affairs (EEA) began the Sustainable Water Management Initiative (SWMI), to develop policies to ensure that the state's communities can meet their water needs while protecting the ecological health of our rivers, streams, wetlands and natural waters. IRWA strongly supported this effort, which came, in part, as a result of work that IRWA and our partners had done, over the past decade or more, to address serious deficiencies in the way state agencies managed water withdrawals from the Ipswich River. Among those deficiencies was the failure of MassDEP to re-determine the "safe yield" of the Ipswich River, which the Courts found was the "fundamental concept" of the Water Management Act and which MassDEP's Commissioner had clarified "…includes environmental protection factors, including ecological health of rivers systems…"

This is not an abstract issue without real world consequences: the Ipswich River has been pumped dry repeatedly by water withdrawals that exceed the river's capacity, causing fish kills and other environmental degradation. The river experiences a severe reduction in streamflow throughout its entire course, throughout all seasons; yet we know that when it has enough water, the river provides high quality habitat as well as excellent recreational opportunities for residents and eco-tourists alike. However, as a result of its severe low-flow and no-flow problems, the Ipswich River was named the third most endangered river in America (2003). IRWA is also part of a regional partnership to protect the Parker River, which is also threatened by water withdrawals that pump the river and its tributaries dry.

IRWA has been an active participant in SWMI; Kerry Mackin has personally attended all meetings of the Technical Advisory Committee (on which she serves) and all but one meeting of the Policy Advisory Committee, as well as numerous additional meetings. IRWA appreciates the huge effort by all involved, including state officials and staff, who worked with the U.S. Geological Survey on scientific studies and with stakeholders to develop policies and proposals.

SWMI provides a solid, credible scientific basis for managing Massachusetts water resources sustainably. For the first time, Massachusetts has access to the key tools that have been under development for years – the Sustainable Yield Estimator (originally proposed as the Safe Yield Estimator) to estimate the natural flow regime at most locations in Massachusetts; thresholds indicating acceptable limits of alteration to river ecosystems (represented by fluvial fish); and the ability to combine these tools to determine how much water can be safely withdrawn, and when, to provide water for people's needs while protecting the environment. We also know that impervious cover is a major factor affecting rivers, although SWMI does not fully avail itself of this information toward the long-standing state goal of integrated water resource management.

This categorization of Massachusetts rivers and the ecologically-based streamflow criteria to be used in managing water withdrawals and other human uses of water represent important progress.

But we are not finished. The proposed SWMI Framework has serious weaknesses that undermine its credibility, negate its effectiveness and thwart truly sustainable water management. SWMI has done outstanding work in the scientific area, but fails to apply the science effectively in establishing policies to manage our rivers sustainably.

From the outset of SWMI, the following core goals were articulated:

- Meeting our need for safe, reliable water supplies in the least environmentally-damaging way
- Protecting our most pristine rivers from becoming degraded
- Restoring our degraded rivers to a healthy condition
- No "backsliding" (anti-degradation)
- Preventing no-flow conditions

Other objectives included managing water holistically and providing more clarity and predictability about how permitting decisions would be made. Although there are certainly points of progress, arguably the SWMI Framework achieves none of the above and thwarts their accomplishment.

- Safe Yield: the proposed EEA safe yields are unacceptable because they are not safe for our rivers, according to the SWMI scientific findings. Inaccurate, excessive safe yield values undermine the entire SWMI Framework. The proposed methodology is inconsistent with the science and law and with MassDEP's 2009 clarification that "safe yield includes environmental protection factors, including ecological health of river systems…"
    - The proposed "safe yields" would allow water withdrawals that are up to five times higher than the maximum acceptable levels that the SWMI scientific studies identified.
    - Using EEA's data and assumptions, if the safe yield were actually withdrawn continuously from our rivers, all Massachusetts rivers would be pumped dry during droughts, and most would be dry for half or more of the summertime (not just during droughts). All our rivers would be classified as Category 5: Severely Degraded. Nothing in the SWMI Framework would prevent flows from falling below safe levels or require action when they do.
    - Because safe yield is applied as a basin-wide annual average, it does not prevent excessive withdrawals from vulnerable headwaters streams or other areas with insufficient hydrologic capacity; these amounts of water are not available and cannot be safely withdrawn from these areas, particularly in summer. The safe yield calculation also inappropriately includes salt marshes, barrier beaches and other coastal areas that are unsuitable for water supply; including these areas in the calculation skews the results even more.
    - Reservoirs with large storage ratios have increased environmental impacts, but the SWMI Framework ignores environmental considerations in its proposed reservoir credits; as a result, these credits are far too high.

    - The safe yield proposal is so flawed that IRWA recommends that EEA rescind it and contract with USGS to develop a credible, scientifically-based method using the tools and findings identified through the SWMI process. <u>At the least, it should be subject to an independent review by objective experts.</u>
- The streamflow criteria (which should be standards) represent an important step forward, establishing the maximum acceptable limits for flow alterations. However, they should establish explicit goals that no river should drop to a lower category and especially that there should be no provision to allow rivers to drop below Category 3. FL 4-5 rivers should be restored to Category 3 over 20 years, to the maximum extent feasible. Major deficiencies include the lack of any criteria to prevent extreme low-flow and zero flow periods, and the failure to trigger any action in real-time when flows fall below the criteria thresholds.
- The SWMI Framework would explicitly allow increased withdrawals, even in severely degraded sub-basins; would exempt some withdrawals from requirements to minimize and mitigate impacts; and would explicitly allow "backsliding" to a more degraded category, through both the "baseline" and "Tiers Table."
    - The "baseline" proposal would allow withdrawal increases of 5-8% without commensurate mitigation. It would also give the most water to those communities that have saved the least, and the least to those that have saved the most; this is inequitable and counter-productive. EEA should abandon the baseline proposal and base permitting decisions and conditions on fully minimizing and effectively mitigating environmental impacts, as the law and regulations currently require.
    - Instead of providing clarity, the Tiers Table is unduly complicated and confusing, and obscures the fact that it allows backsliding and does not require minimizing impacts for all permitted withdrawals. This is contrary to the current WMA regulations.
    - One of the main weaknesses of the SWMI Framework is that there is nothing that establishes a "hands off flow" that must stay in the river to sustain its ecosystem, nor any criteria or mechanism to prevent rivers from being pumped dry. The flawed safe yield does not accomplish this, nor do the streamflow criteria or proposed permitting approach.
    - The proposed triggers for outdoor watering restrictions do not even restrict "non-essential" use when flows go below safe levels as defined by SWMI; inexplicably allow an increase in watering for communities that fail to meet the rgpcd standard; and illogically impose the most stringent requirements where there are no flow problems and the least protective requirements for the most flow-stressed sub-basins.
- The priority of mitigation must be to restore the water balance at the sub-basin level. We strongly support the mitigation proposal to establish an aquatic habitat restoration fund; this should come from water rates as it would then have multiple benefits (including promoting water conservation). All water Demand Management measures, as well as Enterprise Accounts, should be classified under "minimizing impacts" rather than mitigation. In flow-depleted areas, all these measures must be taken to minimize existing impacts, including a water bank that requires a 2:1 ratio. The feasibility analysis must include the environmental costs of the impacts of water withdrawal impacts and should factor in the true value of water in the environment. The effectiveness of mitigation measures must be measurable and quantifiable. Credit should not be given retroactively or for compliance with regulatory requirements, such as the MS4 permits.
- EEA proposes to exempt some new "redundant" wells from permitting requirements; this is a violation of the letter and spirit of the Water Management Act. DEP should not extend the privileged status of "registered" withdrawals to "new withdrawals" as defined by the WMA, including new (redundant or replacement) wells.
- Registered withdrawals are not adequately considered under the SWMI proposal and integrated into the Framework. They should be subject to conditions, as ruled by the Supreme Judicial Court,

to reduce their impacts on rivers streams, wetlands and fisheries. A legitimate safe yield determination would provide a strong legal basis for doing so. In fact, this is the legally-defensible way forward regarding the over-allocated sub-basins.

- Pilot projects should not be used to attack the scientific basis of SWMI. They should focus on testing the adequacy of mitigation measures to balance the water budget, as the first priority. Pilots should include the participation of the local/regional watershed association(s).

We urge EEA to make substantive changes to the SWMI Framework to build on the excellent scientific progress and address these serious deficiencies, so that Massachusetts can achieve sustainable water management.

Our detailed comments and analysis are attached; we request notification if you dispute the accuracy of any of the points that we make. As always, I would be happy to answer any questions or discuss these comments with you or your colleagues. Thank you for your consideration.

Sincerely,

Kerry Mackin
Executive Director
kmackin@ipswichriver.org

Peter Phippen
President
on behalf of the Board of Directors

Attachments: IRWA Comments and Technical Analysis

Cc: Governor Deval Patrick
Secretary Richard Sullivan
Assistant Secretary Philip Griffiths
Commissioner Ken Kimmell
Commissioner Mary Griffin
Commissioner Edward Lambert